

Array Box

Protect and enhance the performance of your photovoltaic installation

An Array Box is a PV string combiner box installed between the PV modules and the inverter, providing protection and performance monitoring to your PV power plant.

Why choose Array Box?



True bankability

- Warranty from a trusted partner with over 177 years of experience
- World leader in industrial power drives, UPS and electrical distribution
- Strong service infrastructure worldwide to support your global needs



Higher return on investment

- Reduced CAPEX: Highly cost competitive range, offers capability to connect weather sensors
- Reduced OPEX: precise power production tracking, detection of PV modules failure and ageing



Designed for reliability

- Resistant to corrosion and pollution thanks to the use of an isolating polyester enclosure reinforced with fibreglass
- Optimal cooling of the switch-disconnector and PV fuses to increase their useful life
- Undergone extensive safety, quality and reliability testing
- Robust design through rigorous Custom Reliability Testing



Flexible

- Fits every PV plant design and module technology with a range of 8/16/24 input channels and 160/300 A STC output currents
- Range available with and without monitoring of string currents
- On-field weather sensors easily connected inside the Array Box to avoid any additional equipment



Easy to service

- Conext Control™ identifies the service needs of the Array Box
- Motorised switch controlled remotely by Conext Control accelerates lock-out / tag-out procedure and allows an easy return to operation



Easy to install

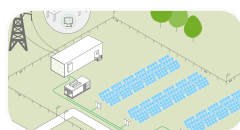
- Mounting on a support bracket or on a plinth for independence to the racking system, or hanged on the racking system for less civil work
- Capabilities to directly connect up to 2 PV string cables and 2 DC output cables per polarity



Product applications



Large commercial



Centralised PV plants

Device short name	AB08-160	AB16-160	AB16-300	AB24-300
Electrical specifications				
DC inputs				
Number of inputs	8	16	16	24
Max. voltage in open circuit	1000 Vdc	1000 Vdc	1000 Vdc	1000 Vdc
Max. input current in short circuit	25 A	25 A	25 A	25 A
Max. input current in short circuit at STC	20 A	20 A	20 A	20 A
DC output				
Max. output current in short circuit at ambient temperature $\leq 40^{\circ}\text{C}$	200 A	200 A	375 A	375 A
at ambient temperature $\leq 45^{\circ}\text{C}$	180 A	200 A	350 A	350 A
at ambient temperature $\leq 50^{\circ}\text{C}$	160 A	200 A	315 A	315 A
Max. output current in short circuit at STC at ambient temperature $\leq 40^{\circ}\text{C}$	160 A	160 A	300 A	300 A
at ambient temperature $\leq 45^{\circ}\text{C}$	145 A	160 A	280 A	280 A
at ambient temperature $\leq 50^{\circ}\text{C}$	125 A	160 A	250 A	250 A
AC supply*				
Voltage at 50/60 Hz	230 V + 10 / -15%	230 V + 10 / -15%	230 V + 10 / -15%	230 V + 10 / -15%
Environmental specifications (in operation)				
Ambient temperature	-25°C to +50°C, above contact Schneider Electric	-25°C to +50°C, above contact Schneider Electric	-25°C to +50°C, above contact Schneider Electric	-25°C to +50°C, above contact Schneider Electric
Relative humidity	0 to 100% condensing	0 to 100% condensing	0 to 100% condensing	0 to 100% condensing
Altitude	0 to 2000 m without derating	0 to 2000 m without derating	0 to 2000 m without derating	0 to 2000 m without derating
Mechanical specifications				
Enclosure				
Type	Outdoor use, full insulating cabinet (polyester reinforced with fibreglass)			
Fire withstand	Self-extinguishing (does not propagate fire during the glow-wire test at 960 °C), halogen-free			
Color	RAL 7032, grey	RAL 7032, grey	RAL 7032, grey	RAL 7032, grey
Product				
Dimensions (H x W x D)	84.7 x 63.6 x 30.0 cm	105.6 x 85.2 x 35.0 cm	105.6 x 85.2 x 35.0 cm	105.6 x 85.2 x 35.0 cm
Weight (essential / monitored / controlled)	33.0 / 37.0 / 40.0 kg (72.8 / 81.6 / 88.1 lb)	58.0 / 62.0 / 65.0 kg (127.9 / 136.7 / 143.3 lb)	63.0 / 67.0 / 71.0 kg (138.9 / 147.7 / 156.5 lb)	67.0 / 71.0 / 75.0 kg (147.7 / 156.5 / 165.3 lb)
Mounting	Floor-standing on support, wall-fixing or hanging with lugs (must be installed protected from direct sunshine)			
Degrees of protection	IP54 (IP55 with optional covers), IK10			
Features				
Protection				
DC inputs overcurrent protection	Protection on both polarities, gPV fuses, size 10 x 38 (fuses not provided with product)			
DC overvoltage protection	Surge arrester, 1000 Vdc, type 2, I _{max} 40 KA			
AC supply overvoltage protection*	Surge arrester, 230 Vac, type 2, I _{max} 40 KA			
Electric shock protection	Class II equipment			
Monitoring and control*				
DC input currents*	0 to 30 A, accuracy +/- 0.5% full scale (one measurement per input)			
DC voltage*	0 to 1000 V, accuracy +/- 0.5%			
Internal temperature*	-30 to +120°C, accuracy +/- 1°C			
Temperature sensor input**	-30 to +120°C, accuracy +/- 1°C, for external PT1000 2 wires temperature sensor			
2 x irradiance sensor inputs**	0 to 1600 W/m ² , accuracy +/- 0.5% full scale, for external 4-20 mA irradiance sensor			
Communication*	Profibus DP, RS485 link			
Switch disconnecter remote control***	Motor pack and MX shunt release			
Compliance				
LV switchgear	IEC / EN 61439-1 and 61439-2			
CE marking	According LV directive 2006 / 95 / CE and EMC directive 2004 / 108 / CE			
Available models				
Essential: protection only	PVSAB31101	PVSAB31201	PVSAB31301	PVSAB31401
Monitored: protection and monitoring	PVSAB31111	PVSAB31211	PVSAB31311	PVSAB31411
Controlled: Protection, monitoring and switch control	PVSAB31121	PVSAB31221	PVSAB31321	PVSAB31421
Optional weather module*	PVSAB31021	PVSAB31021	PVSAB31021	PVSAB31021
Accessories				
Support bracket for roof-mounting	Product no. NSYCOCNS1400 Product no. NSYCOCNS1800 see page 33 for more details			
Support bracket for ground-mounting	Product no. NSYCOCNS1800 SPECIAL see page 33 for more details			
Plinth for ground-mounting	For AB31-08 models product no. NSYZM263 For AB31-16/24 models product no. NSYZM283 see page 33 for more details			
Sealing cover IP55	Product no. NSYCAP125LZF see page 33 for more details			
Set of 4 x lugs for wall-mounting	Product no. NSYPPFLM see page 33 for more details			
Set of 4 x feet for ground-mounting with plinths	Product no. NSYAEBFZ see page 33 for more details			

Specifications are subject to change without notice. *For monitored and controlled models. ** With optional weather sensors connection module. ***For controlled models.

Copyright © 2013 Schneider Electric. All Rights Reserved. All trademarks are owned by Schneider Electric Industries SAS or its affiliated companies. The mark IEEE Std 802.3-2005TM is the registered trademark of the Institute of Electrical and Electronics Engineers, Inc.